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ABSTRACT

If personal networks of only children differ from those of children with siblings, then study of the different patterns of personal association is especially relevant to the understanding of social change in China, where the population of children without siblings is rapidly increasing. A study of these differential social networks used data collected in 1983 on the personal relationships of 3,089 only-child Chinese born before the one child policy was enforced in China. The study tested the hypothesis that only children have more extensive friendships than children with siblings. Findings revealed that a large portion of only children had single-parent family backgrounds prior to adulthood. Their opportunities for development of social relationships and educational attainment were attenuated by this single-parent background, and particularly by their mothers' early deaths. These findings may explain the study's failure to find differences between groups of only children and children with siblings. Further analyses revealed effects of educational attainment, age, and gender on only children's probability of having friends. Theoretical interpretations of the findings are proposed. A total of 50 references are cited. (RH)

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FAMILY AND FRIEND RELATIONSHIPS OF ONLY CHILDREN

A STUDY OF ADULT POPULATION IN CHINA

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ABSTRACT

Only-children may have more extensive non-kin relationships (friendship) than persons with siblings, because (1) only- children tend to have more resourceful family background; (2) consequently higher educational attainment; and (3) a lack of siblings and associated kin ties. The extensive non-kin ties in only-children's social network may have significant impact on social changes in China, as only-child persons are emerging as the majority of the population, given that the enforcement of "one couple one child" policy continues. As the ascribed, kin-centered social network is replaced by the acquired, non-kin network, changes in attitudes and behaviors will occur.

To test the hypotheses that only-children have more extensive friendships than persons with siblings, survey data (N=3089) measuring Chinese adult population's personal relationships are used in the analysis. The analysis fails to find evidence supporting the hypotheses; no general differences in personal relationships are found between only-child persons and their counterparts. It reveals, however, that a large portion of only-child persons had single-parent family background prior to adulthood; and that their opportunities in developing social relationships and attaining education were handicapped by single-parent family background, particularly, by mothers' early death. This may explain the failure to find differences between the two groups. The hypothesized advantages in socialization of only-children might have been offset by their high rate of single-parent family background and other hardships associated with traditional prejudice against only-children. Today's only-children, however, can be expected to be able to develop more extensive friendships. Different from their predecessors, new generations of only-children in China are not the result of marriage termination. They are less likely to suffer from adversities of single-parent family or social prejudice.

Logist regression models are built to predict only-child persons'likelihood of acquiring friendships. Among other findings, a substantial interaction effect of educational attainemtn, age, and gender on only-children's probability of having friends is identified. Theoretical interpretations of the findings are proposed.

The data were collected in 1983 through a collaboration among the Pacific/American Mental Health Research Center of University of Illinois at Chicago, the Shanghai Psychiatric Hospital, and the Shanghai Institute of Mental Health.

FAMILY AND FRIEND RELATIONSHIPS OF ONLY-CHILDREN:

A Study of Adult Population in China*

Introduction

As a major component of China's population policy, "one child for one couple" has been enforced for about a decade. It seems likely that this policy will continue for a long term in dealing with the country's population crisis. Consequently, persons with no siblings are emerging as the new generation in China, particularly in urban areas. However, many critical questions about socialization of only-children remain to be answered. Research of only-children has rarely documented only-children's personal relationships in Chinese society. This study attempts to examine the pattern of Chinese only-children's family and friendship associations in comparison to that of persons with siblings.

Social relation is a key issue in sociological concern. On the micro level, different patterns of social interaction and personal association shape different personalities and behavioral patterns. Generally speaking, extensive and heterogeneous social relationships are conducive to the individual's flexible psychological functioning and mental well-being (e.g., Coser 1979; Berkman and Syme 1979; Billings and Moos 1981; Thoits 1982, 1983), active social resources,

* The author wishes to thank William T. Liu and Eleana Yu, who provided the data for this study.

and the likelihood of achieving instrumental success (Granovetter 1973; Wellman 1979; Lin et.al. 1982).

On the macro level, personal relationships that are characterized as heterogeneous rather than homogeneous, acquired rather than ascribed, friend-centered rather than kin-centered, reflect the structural change of modern society from traditional society (for conclusive theorizing, see Merton 1968; Granovetter 1973; Stryker 1980). This perspective of social relationships research is particularly meaningful in developing societies. As the society experiencing fundamental changes of industrialization, division of labor is increasingly specialized; more heterogenous patterns of personal relationships are both a consequence of the social change as well as a dynamic source for social changes.

Sibling experiences and the corresponding family environment may be an important factor affecting the formation of the individual's social behavior (Sutton-Smith and Rosenberg 1970; Schvaneveldt and Ihinger 1979). It is possible that personal networks of only-children differ from persons with sibling(s). If this is true, then, study of different patterns of personal associations of only-children and sibling children would be especially relevant to understanding social changes in a nation like China, where, the population of persons with no siblings is rapidly increasing.

Associated with the pro-natal tradition in Chinese culture, many Chinese have serious doubts about the likelihood that only-children acquire normative social behavior and healthy interpersonal capabilities. Many believe that, in comparison with sibling children,

persons without siblings are more self-centered, less disciplined, less motivated, poorer in social skills, and therefore, tend to have more psychological problems and a greater chance of evolving deviant behaviors.

Even in industrial societies, where, low fertility rates, the only-child, and voluntary childlessness have become common phenomena, many questions about the characteristics of only-child persons' social behavior and social relationships still remain unanswered. Prejudices and stereotypes of only-children are not rare (Blake 1981; Groat et al. 1984). More substantial research is needed, then, to determine whether there are differences in social behavior and social relationships between only-children and non-only-children, and to identify conditions on which the differences, if any, emerge.

It is meaningful to examine personal relationships of only-child persons in the adult population. Adult behavior should be the ultimate concern of the policy maker because adults' behavior directly influence the society's welfare and development. After all, the population control policies in developing societies are aimed at producing an adult population that, in a manageable size, can effectively perform social functions. In Chinese context, however, one problem facing such research is that the cohorts born after the establishment of "one child" policy have yet to reach their adulthood. To approach the problem from another path, we may study instead the earlier cohorts of only-child. Of course, in such a study, changes in society and in family institution should be considered. For instance, contrary to earlier generations, only-children nowadays are turning into a

"majority" group[1] and hence are less likely to suffer from prejudices. Also, presumably, former generations of only-child were the result of voluntary decision of the parents, or, more likely, by uncontrollable fertility termination, such as divorce, death or illness of parents, whereas today's only-children are largely the consequence of the lawful control.

Research and Theories

A Review of Previous Studies

Discrepancies exist in findings of research on Chinese only-children's social behavior. Jiao et al. (1986) reported that only-children tend to be egocentric, poor in social adaptability and cooperation, and more prone to psychological disturbances. While no overall difference was revealed in their survey, Tseng et al. (1988) have found a gender differentiated pattern among only-children at preschool age. Female only-children were more likely to be emotionally disturbed than females with siblings; but no difference between male only-children and male sibling children was identified. Opposite gender difference was reported by Chen (1985), that is, in rural area, female only-children showed better social adaptability than females with siblings, whereas male only-children were poorer than their

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[1]. For example, an active child psychologist in China recently estimates that, in Beijing, there are less than 15% of elementary students who have siblings (personal contact with Dong Qi, Associate Director of the Institute of Child Psychology, Beijing Normal University). According to Chinese official report, just in 1979, there were 6.07 million families applied for certificate of one-child family. (China Official Annual Report 1981. p.736. Kingsway International Publications, Hong Kong 1982).

counterparts. Inconsistent findings were discussed by Hall (1987) in a different way; while only-children were rated by their peers as less sociable and more selfish, they were evaluated socially and academically superior by their teachers.

Strength of Chinese only-children over sibling children has been reported as well. Poston and Yu (1985) conducted a study with a large sample of children in Hunan and arrived positive conclusions in regard to only-children's socialization. Compared to children with siblings, only-children were found to be more cooperative and less hostile. Falbo's (1987) meta-analysis has reached similar conclusion.

Only-children research in U.S. has cumulated a sizable literature. Pertinent to only-children socialization, Zajonc and Markus' (1975) "intelligence confluence" model has been applied to the research. The essence of this model is: taking the total intelligence resource of the family as a constant, the higher the ratio of adult members over child members, the higher the average value of the family member's intelligence resource. It is so because generally, IQ is positively correlated with age. According to this theorizing, holding other conditions equal, the one child family should have higher average intelligence resource (and hence higher educational attainment) than the multi-children family. Since better education (and associated more prestigious occupations) often provides conditions for developing extensive social networks, we may expect on only-children are more likely to have larger non-kin social networks than persons with siblings.

Empirical research on only-children's socialization from infant through young adulthood has not found substantial evidence that only-children have negative attributes in social interaction. During pre-school years, although only-children's social circles seem to be narrower than those of children with siblings, the frequency and closeness of inter-personal contact of only-children are at higher degrees than those of non-only-children (Gewirtz and Gewirtz 1965; Lewis et.al. 1984). In addition, only-children demonstrate more initiative and control in social interaction (Snow et.al. 1981). In terms of sociability and popularity among fellow children (often measured by other children's evaluation, such as willingness to be playmate with), research findings have been less consistent (Falbo 1986). Perhaps because of only-children's propensity for individual, intellectual activities, they participate in collective activities less often (Falbo 1978; Blake 1981). Some consistent finding have been reported, including (1) only-children's social interaction did not cause their disadvantages in psychological and behavioral development; (2) as reaching young adulthood, the configuration of only-children's personal networks has not been found to significantly differ from non-only-children's; and (3) only-children are benefitted from their continuous close emotional contacts with parents, in comparison with persons with siblings, only-children seem to have higher self-esteem, self-confidence, as well as capability of control in social encounters (for reviews, see Falbo 1984, 1986, 1987).

Studies of adult population have not found significant differences in emotional and personal characteristics between adults reared with no

sibling experience and their counterparts (Polit et al. 1980). It is possible that, if only-children did have narrower social network at their early age, these characteristics may be largely reshuffled by such later social experiences as schooling, work, and marriage. Holding other socio-economic background factors constant, only-child adults tend to attain more education than persons with siblings (Bayer 1966; Groat et.al. 1984). Since educational attainment is an established factor related with open, extensive and heterogenous social network (e.g., Granovetter 1973; Fischer 1982; Campbell et. al. 1986; Marsden 1987), it is plausible to reason that only-children's advantages over non-only-children in social relationship would be more pronounced when they grow up. adulthood.

Data derived from American national survey (General Social Survey 1985) provide support to this hypotheses. While in all cohorts, persons without siblings had fewer kin ties in their networks than persons with siblings, the discrepancy of the rates of kinship ties in personal network between the two groups increases in older cohorts. No other measures of network, such as size, density and multiplexity, however, are differentiated by only-child status (Huang 1989). Apparently, for those with siblings, there should be an exponential increment of kin generated by siblings' marriage and reproduction, that is, the more siblings and the older age, the larger the portion of kin in network. For only-child persons, there is no such kinship expansion. The implication is that only-child persons have larger portions of non-kin ties, which indicate their heavier involvement of acquired and heterogenous network (because of the similar network size

of the two groups). This contrast in sheer numeric pattern of personal association is not likely to alter across society.

Implication for Social Changes

It should be emphasized that the difference in social relationships between only-children and sibling children is pertinent to social changes in a developing nation such as China. The one-child family and the low fertility rates in the West are "natural" consequences of industrialization. Today's Chinese one-child family, however, is the product of lawful control, which occurs prior to industrialization. The current low fertility rates in China are thus not a "natural" outcome of changing social structure or value system. Instead, it is a factor antecedent to various aspects of social changes that take place during industrialization. As an independent variable, the emergence of only-child generation may affect the processes of social development in China.

As large numbers of only-children in the population grow into adults, social life will be affected dramatically. Because they lack such traditional family ties as siblings and siblings' marital kin and offsprings, but have more voluntary social ties, only-child persons' social network may be somewhat similar to that in industrialized societies. That is, contrary to the traditional kin-centered, close, static, and homogeneous social network, only-children are more likely to have friend-centered, open, complex, and constantly changing social network. Such interpersonal relationships will generate new values,

norms, and behavioral patterns that are vital for social changes (Huang 1989).

Research Questions

This paper proposes that only-child persons have more extensive friend relationships than sibling child persons, holding other factors equal. The following questions will be addressed based on analyses of survey data: (1) What are the differences of personal relationships, specifically, the quality of family relationships and the likelihood of having friendship ties between only-child persons and their counterparts? (2) What are the differences in family background between the two groups? Does parental family experience affect the two groups' social relations? (3) Do family relationships (relationships with spouse and parents) affect the likelihood of having friends? And (4) What are the major predictors of only-child persons' likelihood of having friendship ties?

Data and Research Design

Data Source

The data used in this study were collected in 1983 through a collaboration between the Pacific/Asian American Mental Health Research Center of University of Illinois at Chicago, the Shanghai Psychiatric Hospital, and the Shanghai Institute of Mental Health. The original survey was aimed at identifying the rates of psychopathology in Shanghai population. The data include rather detailed socio-demographic information and measures of interpersonal associations,

which are used in this study. The survey was administered to a random sample of 3100 respondents (completed 3098) in Shanghai metropolitan areas. Structured interview in Shanghai dialogue was conducted by Chinese psychiatric professional staff.

Measurement

Only-child is identified with four questions asking the number of siblings the respondent had (older and younger brother and sister, separately), including those died before the interview. A sum of zero of these 4 items indicates that the respondent is an only-child person (215 only-children, 2879 non-only children, and 4 missing cases). Conjugal relationship is indicated by five variables measuring the extent to which respondents' were understood by spouses. The five items are found a fairly cohesive measure of marital relationship (reliability coefficient a=.91). The sum of values of these variables is used as the indicator for conjugal relationships. Parental family background is described with six questions about parental family history before respondents 18 years old (parents death, the respondent's age when the parent died, parents divorce, and respondents' separation from parents). Relationships with parents is measured by the total values of four variables that assess the quality of respondents' relationships with father and mother at respondents' early age (prior to 18). The impact of relationship with father on the individual's socialization may differ from the impact of the relationship with mother, because of gender role differentiation. Thus, the two measures are also separated in more detailed analysis.

Since both sets of measures reflect respondents' socialization history prior to adulthood, they can be seen as antecedent factors to later personal association. Number of friends is measured with the question "How many reliable and good friends do you have?" Most respondents (74.7%) responded "none;" and very few (4.3%) responded with three or more. Thus, this variable is re-coded into a dichotomous variable (having friends versus having no friends). Friendship relationship is reflected in a group of 20 questions about the quality of friendship. A single scale of friendship relation is created with these variables (reliability coefficient a=.90). Educational attainment is measured with the year of schooling. Marital status is coded into two categories--being married (including presently married, divorced, widowed, and separate) versus never married.

Analysis and Results

Bivariate Relationships

Table 1 demonstrates that at bivariate level, only-child persons did not significantly differ from sibling child persons in either family or friendship relationships. After controlling for social background factors such as age, sex, educational attainment, no difference in social relations between the two groups are identified.

--Table 1 is about here--

Difference in Family Background

In examining family experience before respondents' age of 18, only-child persons are found to have a higher rate of single-parent family experience (indicated by rates of a parent's death, parents' divorce, and respondents' separation from either parents (see Table 2). Note that the sample's average age is 38.13 (virtually all respondents were born before introducing the "one child" law). The high rate of single-parent family background of this sample suggests that in the era prior to the implementation of birth control, the only-child in China was largely a result of marriage termination.

--Table 2 is about here--

What are the impacts of single-parent family environment on the development of social relations? Does this family experience handicap only-children's socialization more than sibling children? To answer the questions, three comparisons are performed: (1) controlling for the effect of early parent death, comparing personal relations between only-children and sibling children; (2) controlling for sibling status, examining differences in personal relationships between those whose parents died before their 18, and those whose parents did not; and (3) separately analyzing effects of the early death of father and mother on social relations of only-child group.

The Impacts of Parents' Early Death

(1) Controlling for the effect of Parents' early death:

Among those whose parents were both alive during their pre-adult years, only-children seem to have no closer family and friend relationships than sibling children. An exception is relationship with parents (see Table 3). Only-child persons had significantly closer relationships with parents than persons with siblings ($F=7.12$, $p<.01$). This finding is consistent with the conclusion reached in U.S. research, that is, in a "normal" family (with both parents), only-children tend to have closer and more continuous emotional contact with parents, in comparison with children with siblings (e.g., Falbo 1984).

Among respondents whose father or mother or both died before respondents' age of 18, the differences between the two groups are reversed. Notable is the difference in relationships with parents ($F=6.34$, $p<.01$); only-children had a significantly less close relationship with parents than sibling children.

--Table 3 is about here--

(2) Controlling for the effect of sibling status:

In Table 4, for the only-child group, the effects of parents' early death on personal relations and educational attainment appear to be statistically less significant than for sibling child group. In terms of magnitude of group means, however, parents' early death affects only-children more than sibling children's. The less significant probability levels of the only-child group are due to the group's smaller sample size. It seems that the effects of early parents' death

on personal relations and educational attainment are more substantial for only-child persons than for persons with siblings.

--Table 4 is about here--

(3) Differential effect of early death of mother from father:

Separate analyses of effects of death of father and mother reveal that the detrimental effects resulting from father's early death to only-children socialization are minimum and are not statistically significant. Effects of mother's early death, however, are more substantial and statistically significant (see Table 5). Specifically, mother's early death is associated with only-children's lower scores on social relationships and educational attainment.

Conspicuous effects are shown on indicators of "relationship with father," and "educational attainment." The correlation between mother's early death and the respondent's relationship with living father can be viewed as a causal link. Traditional Chinese norms strictly limited a widow's remarriage, but widower's chance for remarriage was much higher. Commonly, in China, children are not likely to have a close relationship with a new family resulting from father's remarriage. To a greater extent than father's death, mother's early death is conducive to the child's emotional distance from the survived parent simply because the former is associated with

reorganization of the family (via remarriage) and the latter is not.[2]

--Table 5 is about here--

A fact revealed in the analysis is that only-children's schooling is severely handicapped by mother's early death (see Table 5). The average schooling year of only-children whose mothers died before 18 is as low as a half of the mean of those with living mothers (the difference is 4.53, $F=25.68$, $r<.001$). In contrast, the effect of mother's death upon the non-only-children's education is virtually nil (0.28, $F=.87$).[3]

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[2]. Another possibility may be considered. In traditional Chinese family, the emotional attachment between mother and children was closer than that between father and children. It was so because in the patriarchal family, a married woman joining her husband's family often was alienated and inferior. Her key coping strategy in such a situation was creating and sustaining intimate ties with her children, particularly with sons (Wolf 1970; Johnson 1983). In case of the only-child, the reciprocal support between the mother and the child may be particularly strong. After the mother's early death, the weakening of affectional contact of the child with the reformed family, including the father, may occur.

[3]. Again, without appropriate data, speculations are ventured here to account for this relationship. Firstly, it is documented that in China, traditionally, widowers' chance of remarriage was positively correlated with their socioeconomic positions, i.e., only those with sufficient resource would be able to remarry. For widows, the correlation was reverse. That is, the higher the social status, the more likely that the widow observed the norm of chastity and was restricted from remarriage (for example, see Hsu 1967). Thus, a man with an only-child may locate in lower socioeconomic levels since the only-child per se could suggest that the man was unable to remarry. Oppositely, the combination of an only-child with a widowed mother may indicate a family in a higher socioeconomic position. Therefore, the seeming detrimental effect of mother's early death on the only-child's educational attainment may be merely an intermediate linkage. The actual cause to the lower education of the only-child whose mother died

As presented in Table 4, mother's early death is independent of friendships of only-children and sibling children. Education, however, has been documented as a positive condition for possessing wide non-kin and friendship relationships (e.g., Fischer 1982; Marsden 1987). Therefore, mother's early death may influence friendship relations through the intermediate effect of educational attainment. Partial correlation analysis has provided some supportive evidence to this hypothesis: among only-children, at zero-level, the "likelihood of having friends" is correlated with "relationship with mother" at .20 ($p<.05$); while controlling for educational attainment, the correlation coefficient between the two variables decreases to .04, and not statistically significant.

Predicting Only-children' Likelihood of Having Friends

As stated earlier, one of goals of this study is to identify conditions responsible for the formation of only-children's non-kin association. Focusing on the subsample of only-children may pin point the major factors that affect respondents' likelihood of having friends. Variables of relationships with family members, educational attainment, and socio-demographic measures should be considered. Logistic models can be built with these independent variables to

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early may be the family's lesser socioeconomic background. Second, the independence between a mother's early death and educational attainment among persons can be explained with siblings, we should remind readers of the large size and multiple siblings of Chinese families prior to the era of population control. It is possible that older siblings were able to provide various support to younger siblings after parents' death. For only-children, however, no such support was available.

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predict only-child persons' probability of having "reliable and good friends."

The quality of the conjugal tie may be a factor predicting external network configuration. To take this variable into model, non-married respondents are dropped from the analysis.

(1) The Model

In preliminary analysis, a large gap in likelihood of having friends is found between those who had more than 9 years education and those who had only 9 years or fewer. That is, people who had completed junior middle school were much more likely to have "good and reliable friends" than those who had not. A similar pattern is found between the age group of 40 or younger and the group older than 40. In order to have effective measurement and to simplify the interpretation of logistic models, these two variables are dichotomized into "middle school education or more" versus "lower than middle school education," and "older than 40" versus "40 or younger," respectively. Parent's death before respondents' age of 18 is found to be an important factor associated with only-children's educational attainment and personal relationships. As discussed before (see footnote 2), respondents' early relationship with mother could have significant effect on children's later socialization. Thus, "early death of parent" and "relationship with mother" are taken as predictors of the likelihood of having friends. An intimate conjugal tie tends to be negatively correlated with external social ties, because marital cohesion implies

affectional exclusiveness (Bott 1957). Thus, the variable of "relationship with spouse" is added to the model as a covariate.

To test the differential effects of "relationship with mother" and "relationship with spouse" in predicting the probability of having friends, two models are developed. The first one does not include "relationship with spouse," and the second one does.

The models contain two interaction effects that are identified as substantial in model tests. One is the two-way interaction effect of educational attainment and age, the other is the three-way interaction effect of educational attainment, age, and sex. Tests on interaction effects are based on an assumption that, instead of simple additive effects, there might be some peculiar combination effects of these factors on the odds of having friends. For instance, education may affect little on young people's chance of having friends, but may affect on old people's.

-- Table 6 is about here--

(2) Interpretation of the models

The first model presented in Table 6 suggests that sex and "parent's early death" have no direct effect on probability of having friends. Generally speaking, only-child persons who had poorer relationship with their mothers, who had lower education, and who were older, were less likely to have "reliable and good friends," in comparison to their counterparts.

The effects of educational attainment and age on the probability of having friends are found not only in the only-child group, but also in non-only group (not presented here). This finding is consistent to findings in U.S. Age is confirmed as negatively associated with the extent of one's social network.

In Model 1, the coefficient of variable "relationship with mother" indicates that only-children who had close relationship with mothers before their adulthood have better odds to attain friendship. However, parents' early death did not affect the odds of having friends. Nevertheless, as demonstrated earlier, mother's early death did negatively affect on only-children's education and relationship with father in later life. It is possible that the effect of losing a parent in early life on the odds of having friends is mediated by the effects of educational attainment and the relationship with the survived parent.

With model 2 in Table 5, the variable of "relationship with spouse" is added into the equation. The effects of "relationship with mother", educational attainment, and the interaction of educational attainment and age are reduced to insignificance. The antilog coefficient of covariate "relationship with spouse" is small (.94) yet statistically significant ($p<.01$). The small magnitude of the coefficient of this predictor is due to the variable's interval (rather than dichotomous) measurement. It seems that as the only-child enters marriage life, close spouse tie becomes a salient restraining factor to the person's external involvement, and the influences of parents and education diminish. This finding is compatible to Bott's (1957) hypotheses.

That is, the closer the conjugal relationship, the smaller the likelihood of having friends because intimacy of conjugal ties emphasizes mutual obligation and control. This effect, however, is not found among sibling children.[4]

(3) Interaction effects

The interaction effect of age and educational attainment on the likelihood of having friends may be understood as that more education reduced age and gender difference in likelihood of having friends (see Table 7.1 and 7.2). That is, although the older group were less likely than younger group to have friends, this difference is smaller among those who had attained more than middle school education than among those who had not. Likewise, education reduced the gender difference in likelihood of having friends. More intriguing is the interaction of age and gender: women's chance of having friends shrinked more than two thirds in the older groups, but men's only slightly declined in the aged groups (see Table 7.3).

--Table 7.1-6.4 are about here--

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[4]. One possible condition for the stronger exclusive effect of spousal relationship of only-child persons is that only-child persons lack "intermediate ties" that sibling child persons have. "Intermediate ties" include siblings and sibling-related kin. These ties, as influential parts of Chinese extended family, might play a role coordinating the interaction between the two ends of social network (the most intimate "strong tie"--spouse, and external "weak ties"--friends), and somehow reduce the incompatibility between the two. Only-child persons' lack of such an interface component in network may partly explain the negative correlation between conjugal ties and friendships (and the independence of the two variables among persons with siblings).

To clarify the picture, a close examination of the three-way interaction among education, age, and sex on the probability of having friends is needed. The effect of this interaction is consistently significant in both models, as well as in testing models not presented here. It indicates that the association between likelihood of having friends and sex is not simply a difference between men and women, but rather, the difference is conditioned by the combined effect of education and age. In other words, age has differential effects on friendship association of men and women, it has more negative effect to women than to men.

The three-way analysis of variance (see Table 7.4) demonstrates gender differentiated patterns in which education, age, and probability of having friends are associated. For women younger than 40, education has a very strong effect on probability of having friends (.25 versus .50); while for women older than 40, education has little effect on friendship (.10 versus .14). For men, the pattern is reversed. For men under 40 years old, education has little effect on their likelihood of having friends (.25 versus .31); but for men older than 40, education generates great difference in probability of having friends (.11 versus .33). Thus, education and age has two-way interaction effect on probability of having friends in both groups, but the direction of the association is opposite.

To theoretically interpret the interaction effects, two concepts are taken into consideration, namely, the structurally differentiated gender role and the only-child's interpersonal environment. Traditionally, women tend to play roles in the group that are

emotional, expressive and symbolic in nature; while roles for men are more practical and instrumental (Gove 1972, 1979; Collins 1988). It may be expected that such a gender role distinction is more pronounced in Chinese society than in the West. Thus women's action is usually oriented to interpersonal relationship. They are trained and expected to care other members in the group. They function to stabilize the interpersonal relations in the group by providing affectional comforts and support to others. Men, on the other hand, act in the group with an orientation to practical problem-solving. They are socialized to be "breadwinners", providing material resources to the group, and are expected to make instrumental decisions (for conclusive theorizing, see Parsons 1955; Bales 1953; Collins 1985).

Under this normative regulation of gender roles, younger women who have received more education and who do not have siblings may have strong propensity to seek and sustaining non-family relationships, especially friendship. Their better education supplies necessary communication skills for such a socializing tendency. Younger men with more education and without siblings, however, may concentrate more on career and other instrumental matters. Education promotes their motivations and capacities in playing such instrumental roles, but it has less impact on their personal relationships.

As only born persons get older, especially after they get married and have children, their family networks expand, joined by marital kin, the second and third generations, and resulted kinships. Only-child women's social roles as care-giver and emotional stabilizer in the group are switched from non-kin network to kin network, hence they

experience a process of shrinking friendship association, regardless their educational levels. For older only-child women, education therefore becomes a virtually independent factor to their chance of having friends. For only-child men, after they get older and married, their kinship ties are expending as well. However, due to their instrumentally oriented social role, men's social relations are often less rooted in kin ties and tend to be related more to occupational or voluntary social activities. For older men, better education is associated with higher occupational position and professional seniority, and hence, is correlated with more extensive occupational and other non-kin ties, including friendship. This explains why education affect more on older only-child men's probability of having friends.

Conclusion

To address the research questions raised ealier in this paper, several points can be summarized based on data analysis.

First, at bivariate level, there is no significant difference in social relationships between only-child persons and persons with siblings. The hypotheses that the only-child tends to have more non-kin relations than the non-only-child is not supported by the data.

Nevertheless, it should be stressed again that the sample in this research only contains respondents born before the "one child" policy enforced in China. These earlier cohorts of only-child persons may have experienced much more severe prejudices than today's only-children. Perhaps because of their minority status, they have

difficulty to develop social networks as hypothesized in this study. In other words, comparing to the new generation of only-children, these older cohorts may have been handicapped in creating and maintaining friendships.

Further, in examining respondents' social background, a large proportion of these only-child persons was found as resulting from parents' early death or divorce. Frin this particuliar family background, contrary to persons with siblings, only-children suffered in developing relationships with their parents and achieving better education. Among only-children, those whose mother died early, those who had poor relationship with their mothers, those who attained lower education, and those who were older, are less likely to have friendship relations. The specific causal-effect processes need further investigation. Possibly, single-parent family environment has caused alienation of the only-child from the parent. Alienation reduces educational achievement, which subsequently limits the opportunities of developing and sustaining an extensive social network. On the other hand, in Chinese social context, the only-child and the single-father per se may imply lesser socioeconomic resource of the family, which consequently limits the child's educational success and social involvement. Presumably, without those negative conditions, the only-child should not have been deprived of capacities of developing personal network. Today's only-children, with the "normal" birth status assured by the law, are unlikely to face such adversities. Therefore, they should be able to have more extensive friendship as well as better family relationships than respondents in this survey.

In comparison to sibling children, today's only-children should at least have no disadvantages in personal associations.

The analysis identified factors associated with only-child persons' likelihood of having friends. Younger only-child women with better education are most likely to have friendship ties, whereas women who are older and have less education are least likely to have friendship relations. Only-child men seem to locate between these two extremes. Only-child persons' conjugal relationship seems to be an important factor restricting their chance of having friends. That is, the closer the only-child person is relate with spouse, the less likely she/he is to be involved in extensive outside network.

To directly test the hypothesis proposed in this paper, it is necessary to systematically investigate new generations of only-children who were born after the "one child family" law has been enforced in China.

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Table 1. Differences in Personal Relationships and Educational Attainment between Only-child Persons and Sibling Child Persons: one-way analysis of variance (Numbers in parenthesis are cell counts).

Personal Relationships	Only-Children	Sibling Children	F
Likelihood Having Friends	.27 (215)	.25 (2879)	.16
Relationship with Friends	42.42 (57)	40.65 (730)	.95
Relationship with Spouse	13.57 (161)	13.71 (1999)	.38
Relationship with Parents	16.01 (208)	16.46 (2861)	5.08
Educational Attainment	9.60 (215)	10.04 (2879)	2.29

Note: Missing cases include respondents who reported to have no "reliable and good friends," who were not married, and who did not respond to questions about relationship with parents.

Table 2. Difference in Family Background between Only-child Persons and Sibling child Persons: percentages of the death of one or both parents, divorce of parents, and separation from the parents before respondents' age of 18 (numbers in parenthesis are cell counts)

Total Sample:

	Only-child (212)	Sibling Child (2865)	X^2
One or Both Parents Died	40.6 (86)	19.8 (567)	51.00***
Parents Divorced	6.2 (13)	2.0 (57)	15.86***

The Sub-sample of Respondents Whose Parents Divorced:

	Onlies (12)	Non-onlies (52)	X^2
Separate from Father	84.6 (11)	73.1 (38)	.75
Separate from Mother	58.3 (6)	30.8 (16)	3.22

*** p<.001

Table 3 Differences in Personal Relationships between Only-child Persons and Sibling child Persons Controlling for One or Both Parents' Death before Respondents' Age of 18: one-way analysis of variance (Numbers in parenthesis are cell counts).

	Both Parents Alive		
	Only-child	Sibling child	F
Likelihood of Having Friends	.83 (126)	.67 (2308)	1.60
Relationship with Friends	43.2 (39)	40.9 (655)	1.03
Relationship with Spouse	13.9 (87)	13.8 (1531)	.39
Relationship with Parents	17.3 (126)	16.8 (2421)	7.12**
Educational Attainment	10.8 (127)	10.3 (2308)	2.09
	One or Both Parents Died		
	Only-child	Sibling child	F
Likelihood Having Friends	.21 (86)	.20 (567)	.05
Relationship with Friends	40.8 (18)	39.3 (112)	.22
Relationship with Spouse	13.1 (72)	13.5 (462)	1.20
Relationship with Parent!	14.1 (81)	15.2 (553)	6.34**
Educational Attainment	7.9 (87)	8.8 (575)	2.89*

** p<.01
* p<.1
! For respondents whose parent died, "relationship with parents" refers to the experience before the parent's death.

Table 4. Difference in Personal Relationship between Respondents Whose Parent(s) Died and Respondents Whose Parent(s) were Alive Before Respondents Age of 18, Controlling for Only-child Status: one-way analysis of variance (numbers in parenthesis are case numbers of sub-groups).

	Only-child Persons		
Personal Relationship	Parent alive	Parent died	F
Likelihood of Having Friends	.31 (126)	.21 (86)	2.62
Relationship with Friends	43.15 (39)	40.83 (18)	.55
Relationship with Spouse	13.97 (87)	13.06 (72)	3.64
Relationship with Parents!	17.32 (126)	14.07 (81)	41.49***
Educational Attainment	10.85 (126)	7.84 (86)	26.39***

	Sibling child Persons		
Personal Relationships	Parent alive	Parent died	F
Likelihood of Having Friends	.27 (2308)	.20 (567)	10.76***
Relationship with Friends	40.93 (616)	39.43 (113)	1.21
Relationship with Spouse	13.78 (1534)	13.46 (462)	4.92*
Relationship with Paretns!	16.76 (2305)	16.22 (553)	154.10***
Educational Attainment	10.34 (2308)	8.85 (567)	64.15***

*** p<.001 * P<.05

! For those whose parent died, "relation to parents" refers to the experiences before the parent's death.

Table 5. Among Respondents Whose Mother Died before Their Age of 18, the Differences of Personal Relationships and Educational Attainment between the Only-child Persons and Sibling child Persons: One-way analysis of variance (Numbers in parenthesis are counts).

Personal Relations	Only-Child Persons			Sibling child Persons		
	Mother Alive	Mother Died	F	Mother Alive	Mother Died	F
Likelihood of Having Friends	.28 (190)	.16 (25)	1.60	.25 (2727)	.26 (152)	.01
Relationship with Friends	42.88 (53)	36.50 (4)	1.21	40.69 (691)	40.03 (39)	.09
Relationship with Spouse	13.72 (139)	12.59 (22)	2.74#	13.73 (1872)	13.35 (127)	2.40
Relationship with Mother!	8.66 (182)	7.83 (18)	5.42*	8.46 (2701)	8.13 (136)	10.38**
Relationship with Father	8.58 (167)	7.74 (23)	7.85**	8.30 (2641)	7.90 (151)	14.84***
Educational Attainment	10.13 (190)	5.60 (25)	25.68***	10.06 (2727)	9.74 (152)	.87

*** p<.001
** p<.01
* p<.05
# P<.1
! For those whose mother died before their 18, "relation to mother" refers to the experience before the mother's death.

Table 6. Logistic Regression Coefficients of Predictors of Only-child Persons' Odds of "Having Reliable Good Friends" (antilogs are in the parenthesis).

Independent variables	Logistic Regression Coefficients	
	Model 1 (N=156)	Model 2 (N=148)
Parent's Early Death	.04 (1.08)	.16 (1.38)
Relationship with Mother	.18 (1.43)*	.09 (1.20)
Relationship With Spouse	-------	-.03 (.94)***
Gender (woman)	-.02 (.96)	.03 (1.06)
Age	-.36 (.49)***	-.38 (2.14)***
Educational Attainment	.23 (1.58)**	.13 (1.29)
Interaction 2-way Educ by Age	-.19 (.68)*	-.19 (.68)
Interaction 3-way Educ by Age by Gender	.19 (1.46)*	.26 (1.66)***
Constant	.67 (3.67)***	2.00 (54.59)***
Entropy	.12	.18
Concentration	.13	.18
Significant level	.40	.22

* P<.10
** P<.05
***P<.01

Note: Subsmaple of respondents who reported to be married is analyzed; the difference in sample size for the two models is due to missing cases on variables of relationship with spouse.

Table 7.1 Two-way Interaction Effect of Educational Attainment and Age on Only-child Persons' Probability of "Having Reliable and Good Friends": two-way analysis of variance (numbers in parenthesis are cell counts).

	Younger than 40	Older than 40
Lower than 9-year education	.29 (34)	.10 (60)
Higher than 9-ear education	.40 (30)	.25 (39)

n=163

Table 7.2 Two-way Interaction Effect of Educational Attainment and Gender on Only-child Persons' Probability of "Having Reliable and Good Friends" (numbers in parenthesis are cell counts)

	Female	Male
Lower than 9 years educ	.16 (63)	.19 (31)
higher than 9 years educ	.31 (39)	.31 (39)

n=172

Table 7.3 Two-way Interaction Effect of Age and Gender on Only-child Persons' Probability of "Having Reliable and Good Friends": two-way analysis of variance (numbers in parenthesis are cell counts).

	Female	Male
Younger than 40	.38 (39)	.28 (25)
Older than 40	.11 (63)	.24 (45)

n=172

Table 7.4 Three-way Interaction Effects of Educational Attainment, Age and Gender on Only-child Persons' Probability of "Having Reliable and Good Friends": three-way analysis of variance (numbers in parenthesis are cell counts).

Women:

	Younger than 40	Older than 40
Lower than 9 years eduction	.29 (21)	.10 (42)
Higher than 9 years education	.50 (18)	.14 (21)

Men:

	Younger than 40	Older than 40
Lower than 9 years education	.31 (13)	.11 (18)
higher than 9 years education	.25 (12)	.33 (27)

n=172